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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

MATHEWS, ALAN A

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2851

DATE MAILED: 05/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/944,858

Applicant(s)

SHIMODA ET AL.

Examiner

Alan A. Mathews

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-7 is/are allowed.
- 6) ☒ Claim(s) 1 and 8 is/are rejected.
- 7) ☒ Claim(s) 2-4 and 9-15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: The drawings do not show elements 29a, 29b, 29c, 29d, and 29e described on page 8, lines 14-26, of the specification. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: On page 14, line 15, "defects 14" is in error, since numeral "14" was previously used to designate a surface. Page 15, lines 3 and 4, calls figure 13 a second embodiment. But page 16, lines 12 and 13, also calls figure 15 a second embodiment, even though it adds additional elements to figure 13. This creates confusion as to what is being called a second embodiment. It is further noted that page 6 of the brief description of the drawings calls figure 15 a third embodiment, which is not consistent with page 16, lines 12 and 13, which calls figure 15 a second embodiment.

Appropriate correction is required.

Objection to the claims

3. Claim 11 is objected to in that on line 3, there is no proper antecedent basis for "said temperature detecting means", since claim 11 depends on claim 8. Claim 12 is objected to in that on line 13 and 14, there is no proper antecedent basis for "said illumination light".

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noguchi et al. (U. S. Patent No. 6,400,454) in view of the Japanese patent document 4-368146 and in further view of Nei (U. S. Patent No. 6,492,649). Noguchi et al. discloses a mount 201 for mounting specimen 1 (see figure 1 and column 7, lines 54-56). Noguchi et al. '454 also discloses an automatic focus control system in column 8, line 10. Noguchi et al. '454 further discloses a second embodiment in figure 7 and column 14, lines 53-67, and column 15, lines 1-37). This second embodiment has an illumination light 701 to illuminate the specimen 1. The imaging optical system includes 712 and 711 (see column 15, lines 5 and 6). Image sensor 715 is the opto-electric converter positioned to detect the image of the specimen (see column 15, line 29).

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The electronic equipment attached to 715 would be the detector which detects defects of the specimen. Column 15, lines 11-13 discloses an automatic focusing system 722 for adjusting the surface of a specimen 1 to focus the objective lens 711. Thus, Noguchi et al. '454 discloses the invention except for specifically stating that the objective lens has a numerical aperture providing a resolution of at least .18 microns and that the auto-focus provides illumination at an incident angle of at least 85 degrees. The Japanese patent document 4-368146 discloses an automatic focusing system 40 having a light source 41 and a sensor 42 for the purpose of providing better control of the object. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide Noguchi et al. '454 with an auto-focus optical system which has an illumination module and providing light at an angle in view of the Japanese patent document 4-368146. It is well known to provide autofocusing illumination at an incident angle of at least 85 degrees relative to a normal for the purpose of more accurately determining the focusing position, and it would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the illumination at an angle of at least 85 degrees in view of this old and well known concept in auto-focusing. Nei discloses in column 1, lines 45-55, an NA value that achieves a resolution of at least 0.18 microns for the purpose of working with finer patterns. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide Noguchi et al. '454 with a numerical aperture providing a resolution of at least .18 microns in view of Nei for the purpose of working with finer patterns and thus improving the final product.

Allowable Subject Matter

6. Claims 5-7 are allowed. Claims 12-15 would be allowable subject to correction of the objection to claim 12. Claims 2-4 and 9-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable subject to correction of the objection to the claim above and if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents on Applicant's PTO 1449 are cited for the same reasons Applicant cited them in his INFORMATION DISCLOSURE STATEMENT. The patent to Siibata et al. is cited to show automatic focusing in combination with defect detection. The patent to Noguchi et al. is cited to show auto-focusing is cited to show auto-focusing unit 13 in figure 1 in combination with detector 51.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan A. Mathews whose telephone number is (703) 308-1706. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on (703) 308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Alan A. Mathews
Primary Examiner
Art Unit 2851

AAM
May 28, 2003